

Fig. 1. Light micrographs showing the aggregation of free-floating *Pseudomonas* sp. 2881 by the addition of ConA. (A) Free floating *Pseudomonas* sp. 2881 without ConA and (B) *Pseudomonas* sp. 2881 aggregated with 0.1mg/ml ConA.

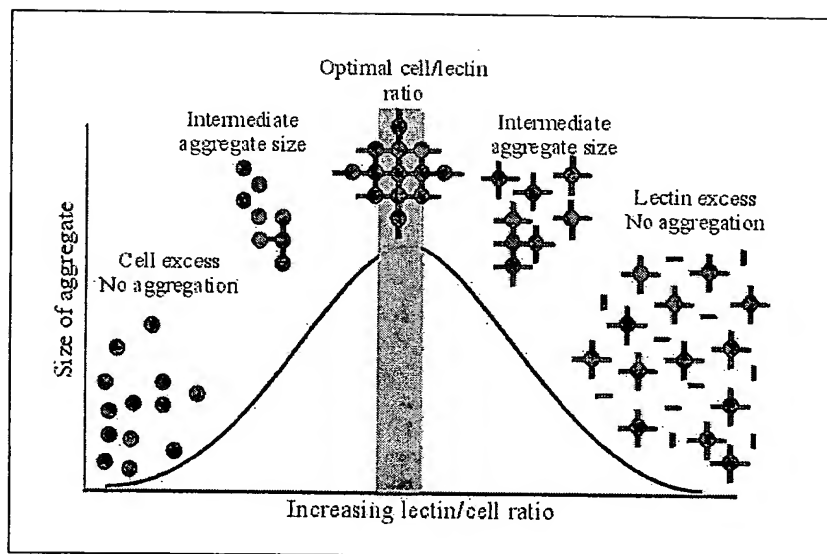


Fig. 2. A diagram showing the parabolic relationship between ConA/cell ratio and the size of the aggregate formed.

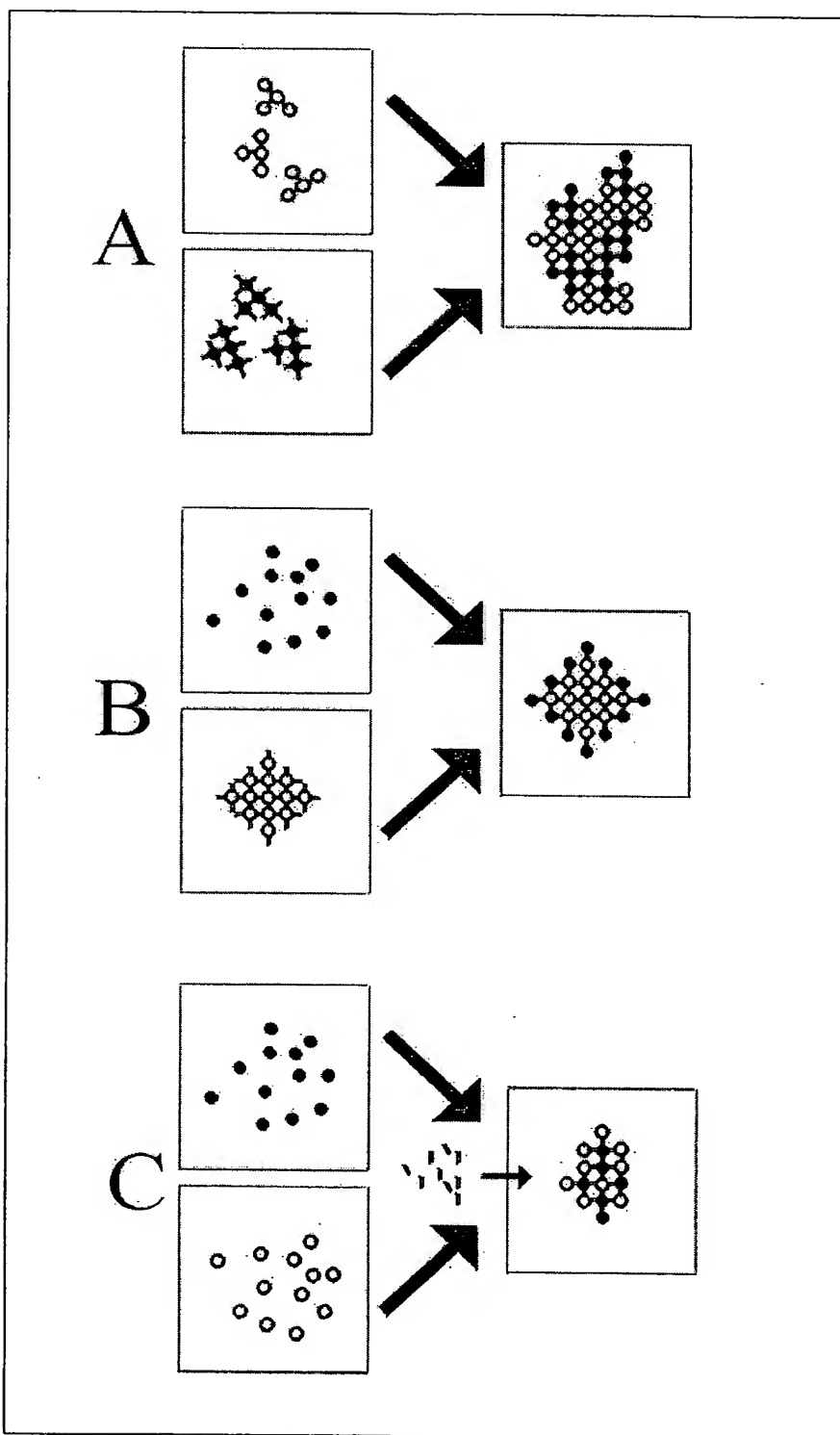


Fig. 3. Diagram showing the different approaches used to construct mosaic or multi-species aggregates using ConA lectin. **A:** Simple mosaics formed by mixing aggregates of one organism created under a lectin deficiency with those formed under lectin excess. **B:** Free-floating bacteria added to aggregates formed under a lectin-excess in order to create a lamellar structures. **C:** Unordered aggregates constructed by adding lectin to a mixture of free-floating bacteria.

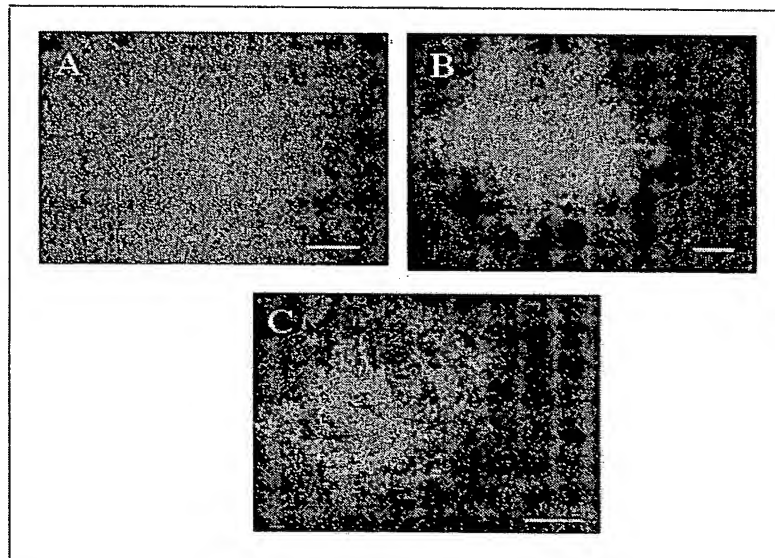


Fig. 4. Light micrographs digitally combined with fluorescence micrographs of multi-species or mosaic aggregates. To easily visualise the spatial positions of species within the aggregates, one species of bacteria was engineered to express Green Fluorescent Protein (GFP). **A:** Unordered mixture of *Pseudomonas* sp. 2881 expressing GFP and *A. hydrophila*. **B:** Ordered mixture of *A. hydrophila* expressing GFP (core) and *C. aquaticum* (shell) **C:** Ordered mixture of *A. hydrophila* (core) and *Pseudomonas* sp. 2881 expressing GFP (shell). Bar represents 10 μ m.

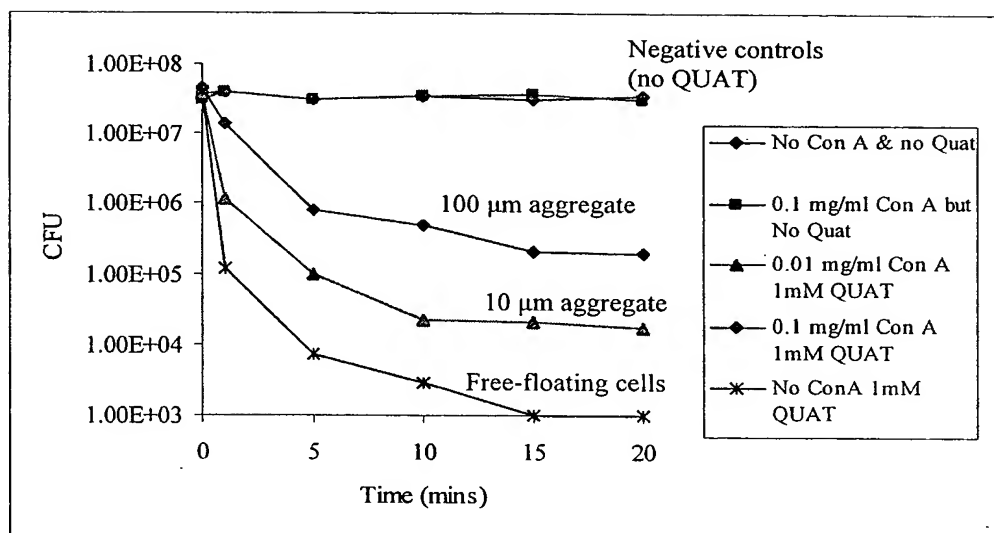


Fig. 5. Graph showing the changes in susceptibility associated with the aggregation of *Pseudomonas* sp. 2881. 1 mM QUAT used. Standard error within 5%.

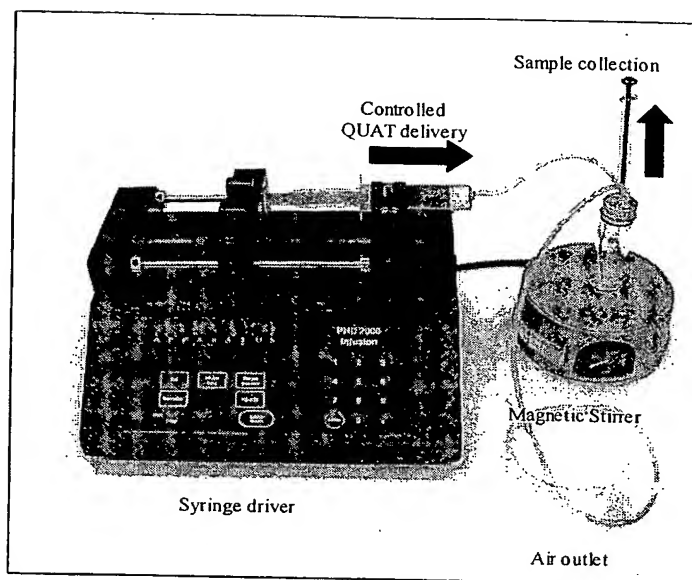


Fig. 6. Image of the precision syringe driver prepared for use with attached bijou, syringe and air filter.

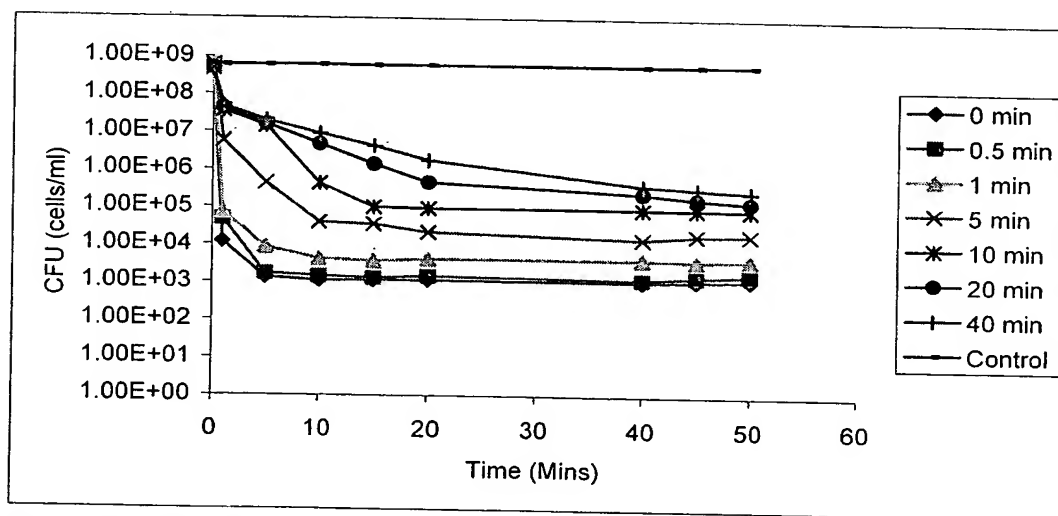


Fig. 7. Sample data showing the influence of gradual application of 1 mM C14 QUAT to *Pseudomonas* sp. 2881. Time periods of addition of QUAT are shown. Control represents no treatment.

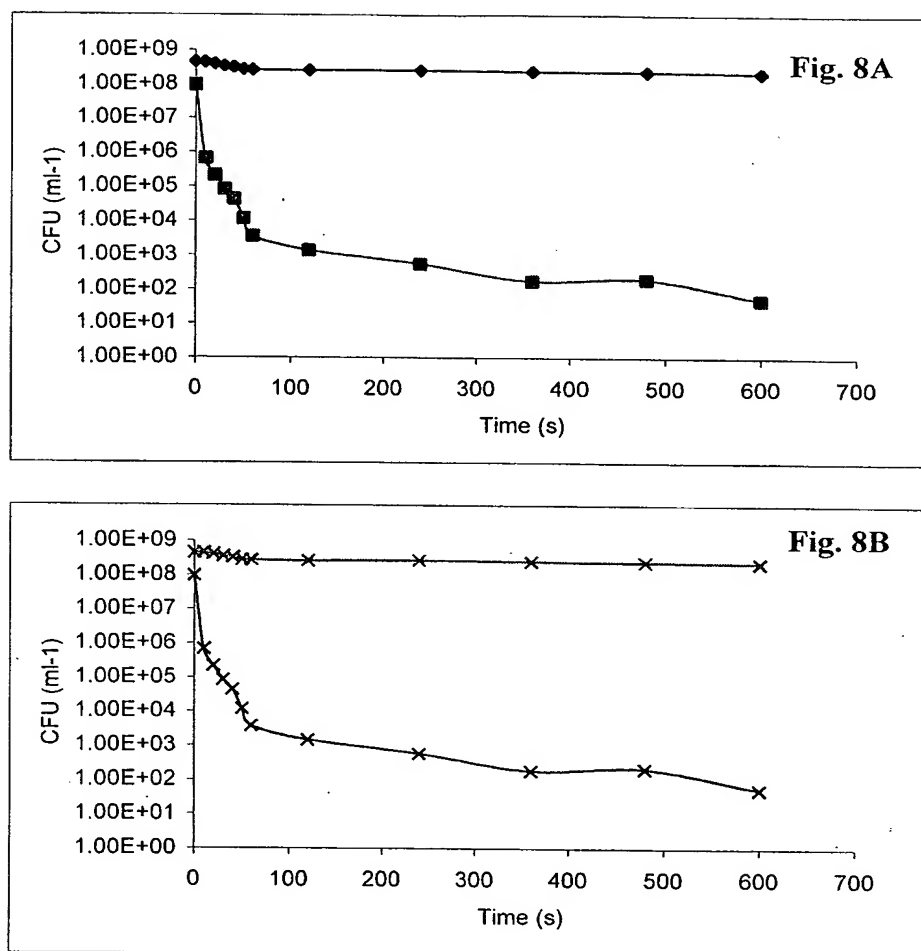


Fig. 8. Sample data showing a comparison of the time survival kinetics of mixed (*Pseudomonas* sp. 2881 with *C. aquaticum*) and single (*Pseudomonas* sp. 2881 or *C. aquaticum*) species populations following treatment with 0.5 mM C12 QUAT.

A: -♦-: Suspension of non-aggregated *Pseudomonas* sp. 2881. -■- : Suspension of non-aggregated *C. aquaticum*.

B: Suspension of non-aggregated *Pseudomonas* sp. 2881 cells (-x-) mixed with a suspension of *C. aquaticum* cells (-x-). Standard error within 5%.